WHAT IS CLAIMED IS:

- 1. A method of producing a metal nanocomposite powder in which carbon nanotubes are dispersed in a matrix, the method comprising:
- (a) dispersing carbon nanotubes in a predetermined dispersing solvent to form a dispersed solution;
 - (b) primarily treating the dispersed solution using ultrasonic waves;
- (c) uniformly mixing water-soluble metal salts or metal hydrates with the treated dispersed solution of (b);
- (d) secondarily treating the dispersed solution of (c) using ultrasonic waves;
- (e) drying and calcining the dispersed solution of (d) to produce a metal oxide nanocomposite powder; and
 - (f) reducing the metal oxide nanocomposite powder of (e).
- 2. The method of claim 1, wherein the dispersing solvent of (a) is selected from the group consisting of water, ethanol, nitric acid solution, toluene, N,N-dimethylformamide, dichlorocarbene, and thionyl chloride.
- 3. The method of claim 1, wherein the water-soluble metal salts or metal hydrates of (c) comprise a metal selected from the group consisting of copper, nickel, cobalt, iron, and tungsten.
- 4. The method of claim 1, wherein the drying of (e) is conducted at about 80°C to about 100°C.

- 5. The method of claim 1, wherein the calcining of (e) is conducted at about 200°C to about 350°C under atmospheric air when the matrix requires a calcination temperature of about 400°C or lower.
- 6. The method of claim 1, wherein the calcining of (e) is conducted at about 400°C to about 1700°C under reduced pressure when the matrix requires a calcination temperature of about 400°C or higher.
- 7. The method of claim 6, further comprising a drying step at about 300°C to about 350°C.
- 8. The method of claim 1, wherein the reducing of (f) is conducted under a reducing gas atmosphere.
- 9. The method of claim 1, wherein the reducing of (f) is conducted under a hydrogen, CO, or CO₂ gas atmosphere.
- 10. A metal nanocomposite powder, comprising a carbon nanotube dispersed in a matrix, produced by the method of claim 1.